**UNIT 8 ADDITIONAL PRACTICE Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Complete if Quiz #1 is not passed.**

*Balance the chemical equation below and use it for questions #1-4.*

**\_\_\_\_\_ K3PO4(aq) + \_\_\_\_\_ MgCl2(aq) 🡪 \_\_\_\_\_ Mg3(PO4)2(s) + \_\_\_\_\_ KCl(aq)**

1. How many moles of potassium chloride can be produced from 1.50 mol of magnesium chloride?
2. How many grams of potassium phosphate are needed to produce 3.50 mol of magnesium phosphate?
3. How many grams of potassium chloride can be produced from 27.5 g of magnesium chloride?
4. Calculate the grams of potassium phosphate needed to produce 35.0 g of potassium chloride.

**Complete if Quiz #2 is not passed.**

*Balance the chemical equation below and use it for questions #5-7.*

**\_\_\_\_\_ Na + \_\_\_\_\_ Cl2 🡪 \_\_\_\_\_ NaCl**

1. How many atoms of sodium are needed to react with chlorine to produce 50.0 g of sodium chloride?
2. Calculate the liters of chlorine gas needed to produce 25.0 g of sodium chloride at STP.
3. How many liters of chlorine gas are needed to react with sodium to produce 2.50 g NaCl? The density of chlorine gas is 3.20 g/L.

**Complete if Quiz #3 is not passed.**

*Balance the chemical equation below and use it for questions #8-11.*

**\_\_\_NH3 🡪 \_\_\_H2 + \_\_\_N2**

1. If 65.0 L of nitrogen gas are needed, what mass of ammonia should be placed into the air-bag igniter? (The density of nitrogen gas is 1.251 g/L.)
2. How many grams of hydrogen gas will be produced from 68.7 g ammonia?
3. How many molecules of ammonia are needed to form 4.3 g hydrogen gas?
4. How many grams of ammonia will decompose to form 45.0 L nitrogen gas at STP?

**Complete if Quiz #4 is not passed.**

*Balance the chemical equation below and use it for question #12.*

**\_\_\_\_\_ Na(s) + \_\_\_\_\_ Fe2O3(s) 🡪 \_\_\_\_\_ Na2O (s) + \_\_\_\_\_ Fe(s)**

1. If 100.0 g sodium and 100.0 g iron (III) oxide are used in this reaction, determine:
   1. The mass of iron formed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. The limiting reactant is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The excess reactant is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Complete if Quiz #5 is not passed.**

*Balance the chemical equation below and use it for question #13.*

**\_\_\_\_\_ Cu + \_\_\_\_\_ AgNO3 🡪 \_\_\_\_\_ Cu(NO3)2 + \_\_\_\_\_ Ag**

1. If 20.0 g of copper reacts with excess silver nitrate solution to form 60.0 g silver, calculate the percent yield. Actual Yield = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Theoretical Yield = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_